

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AUTOMATED TRANSACTIONS LLC,)	
)	
Plaintiff,)	
)	
v.)	Civ. No. 06-043-SLR
)	
IYG HOLDING CO., 7-ELEVEN, INC.,)	
VCOM FINANCIAL SERVICES, INC.)	
and CARDTRONICS USA, INC.,)	
)	
Defendants.)	

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MEMORANDUM OPINION

Dated: March 9, 2011
Wilmington, Delaware

I. INTRODUCTION

Plaintiff Automated Transactions, LLC ("plaintiff") is the exclusive licensee of several patents directed to systems and methods for enabling a user to complete a retail transaction over the Internet via a combination Automated Teller Machine ("ATM") and Internet kiosk. On January 23, 2006, plaintiff commenced this patent infringement action against defendants IYG Holding Co. ("IYG"), Vcom Financial Services, Inc. ("Vcom") and Cardtronics USA, Inc. ("Cardtronics") (collectively "defendants") alleging that multiple products sold or used by defendants infringe U.S. Patent No. 6,945,457 ("the '457 patent"). (D.I. 1) Shortly thereafter, a third party to this litigation filed a petition for *ex parte* reexamination of the '457 patent, and the parties stipulated to a stay pending reexamination. (D.I. 40) During the stay, plaintiff filed twenty-eight continuation applications that claim priority to the '457 patent and have identical specifications. (D.I. 160 at 1) On August 28, 2009, the court lifted the stay and proceedings resumed. Plaintiff filed an amended complaint on October 1, 2009, adding allegations that defendants infringe U.S. Patent Nos. 7,571,850 ("the '850 patent"), 7,591,420 ("the '420 patent") 7,575,158 ("the '158 patent"), 7,597,248 ("the '248 patent") and 7,600,677 ("the '677 patent"), all of which are continuations of the '457 patent. (D.I. 56, 60) Defendants have asserted various affirmative defenses and counterclaims in response to plaintiff's amended complaint, including noninfringement and invalidity of the patents in suit. (D.I. 68) On June 23, 2010, pursuant to the parties' stipulation, the court dismissed with prejudice plaintiff's claims relating to the '248 patent. (D.I. 215)

The parties have proffered meanings for the disputed claim limitations and move

for summary judgment. Plaintiff seeks summary judgment of infringement and validity, and defendants seek summary judgment of invalidity and noninfringement of the patents in suit. (D.I. 151; D.I. 153; D.I. 157; D.I. 158) The court has jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338. For the reasons that follow, the court grants defendants' motion for noninfringement (D.I. 158), grants in part defendants' motion for invalidity (D.I. 157), grants in part plaintiff's motion for validity (D.I. 153), and denies plaintiff's motion for infringement (D.I. 151).

II. BACKGROUND

A. The Parties and the Technology at Issue

The technology at issue involves systems and methods for enabling a user to complete a retail transaction over the Internet via a combination and Internet kiosk. According to the patents in suit, combining an "ATM with other retail goods and services transactions is not only new, but would heretofore have been considered virtually heretical." ('457 patent, col 2:40-42).¹ Prior to this invention, ATMs connected to a bank's computers via private, dedicated lines, often in the form of telephone lines. (D.I. 152 at 2) The patented invention changes this paradigm, allowing an ATM to complete a retail transaction over the Internet.

Plaintiff is the exclusive licensee of the patents in suit. IYG Holdings is the majority shareholder of 7-Eleven,² the world's largest convenience store chain. 7-

¹ As discussed below, the patents in suit are all children of the '457 patent and share its specification. Consequently, any citations to the specifications of the patents in suit will be made to the '457 patent.

² See *generally* 7-Eleven, Inc. Company History, <http://www.fundinguniverse.com/company-histories/7Eleven-Inc-Company-History.html>

Eleven offers Vcom ATMs at multiple locations for the convenience of its patrons.³ The Vcom ATMS are owned and operated by Cardtronics USA, a financial kiosk management company.⁴ (D.I. 160 at 11)

B. The Patents in Suit

1. The '457 patent

The '457 patent claims a system and method for enabling a user to complete a retail transaction over the Internet via a combination ATM and Internet kiosk. ('457 patent, col. 2:35-43) The '457 patent was issued on September 20, 2005, and stems from a PCT application filed May 9, 1997 which itself benefits from the priority date of a provisional patent filed May 10, 1996. Plaintiff alleges that defendants' products infringe claims 1-3, 5, 9-10 and 14 of the '457 patent. (D.I. 156 at 10)

Claim 1 is illustrative of the apparatus claims asserted:

Integrated banking and transaction apparatus for use by a consumer comprising:
an automated teller machine; and
means for providing a retail transaction to the customer through an Internet interface to the automated teller machine.

('457 patent, col. 5:53-58)

Claim 9 is the only independent method claim asserted:

A method of providing banking services and transaction capability to

(last visited Jan. 12, 2011).

³ See generally 7-Eleven.com, <http://corp.7-eleven.com/AboutUs/FunFacts/tabid/77/Default.aspx> (last visited Jan. 12, 2011).

⁴ See generally Cardtronics.com, <http://www.cardtronics.com/about/default.asp> (last visited Jan. 12, 2011).

a consumer in a single automated transaction machine, comprising the steps of:

- providing automated teller machine access to the consumer via the automated transaction machine; and
- providing Internet access to the consumer via the automated transaction machine and realizing a retail transaction.

('457 patent, col. 6:14-21)

2. The '850, '158, '420, and '677 patents

The remaining patents in suit are children of the '457 patent, and share its specification as well as many of its limitations. Critical to this case is that each of the asserted claims of the patents in suit contain "an Internet interface" limitation. Claim 1 of the '850 patent is illustrative:⁵

An integrated banking and transaction machine for use by a consumer to purchase access to retail ATM services, comprising:
an automated teller machine;
a user interface to the automated teller machine;
means for identifying the user to the automated teller machine, further comprising a smart card/magnetic stripe reader/encoder and a sensor;
an Internet interface to an intranet connection to the automated teller machine that uses encryption services and security services to provide the user access to the user interface and retail ATM service; and
access to the automated teller machine user interface whereupon the consumer may selectively dispense encodable credit using the integrated banking and transaction machine providing the retail ATM service;
wherein the consumer can purchase access to the retail ATM service through the use of the user interface, Intranet and Internet connections.

('850 patent, col. 5:59-6:14) (emphasis added)

⁵ Plaintiff asserts claims 1-3, 5, 11-13 and 15 of the '850 patent. Claim 1 is the only independent claim.

The relevant portion of claim 1 of the '158 patent reads:⁶

An integrated banking and transaction machine for use by a consumer to purchase access to retail ATM services, comprising:

...

an Internet interface to an Internet connection to the automated teller machine that uses encryption services and security services to provide the user access to the user interface and retail ATM service.

('158 patent, col. 5:59-6:7) (emphasis added)

The relevant portion of claim 1 of the '420 patent reads:⁷

An integrated banking and transaction machine for use by a consumer to purchase access to retail ATM services, comprising:

...

an Internet interface to an Intranet connection to the automated teller machine that uses encryption services and security services to provide the user access to the user interface and retail ATM service.

('420 patent, col. 5:59-6:7) (emphasis added)

The relevant portion of claim 1 of the '677 patent reads:⁸

An integrated banking and transaction machine for use by a consumer to purchase access to retail ATM services, comprising:

...

an Internet interface to the World Wide Web to the automated teller machine that uses encryption services and security services to provide the user access to the user interface and retail ATM service.

('677 patent, col. 5:59-6:7) (emphasis added)

⁶ Plaintiff asserts claims 1-3, 5, 11-13 and 15 of the '158 patent. Claim 1 is the only independent claim.

⁷ Plaintiff asserts claims 1-3, 5, 11-13 and 15 of the '420 patent. Claim 1 is the only independent claim.

⁸ Plaintiff asserts claims 1-3, 5, 11-13 and 15 of the '677 patent. Claim 1 is the only independent claim.

C. The Accused Products

The accused products are two Vcom ATMs which differ only slightly in their functionality: Vcom 5878 and 6676.⁹ (D.I. 160 at 11) For both models, the customer initiates a transaction by tapping on the touch screen monitor of the ATM or by swiping a magnetic stripe card, i.e., a debit or credit card, in the machine's card reader slot. (*Id.*) The customer then verifies his or her identity by typing a personal identification number ("PIN") on the ATM's keypad. (*Id.*) Once the customer's identity has been verified, the customer can select from a list of transactions including cash withdrawal, ATM/check deposit, check cashing, money transfer, bill payment and credit union center. (D.I. 204, J.A. 14 at app. C)

In order to enable the ATMs to complete a transaction with a customer, the ATMs are connected to a back-end system managed by Postillion via a private "frame relay network" operated by AT&T. (D.I. 12; D.I. 204, J.A. 19 at ¶ 2) The ATMs never communicate directly with a partner company during a transaction. (*Id.* at ¶ 7) When a customer initiates a transaction, the ATM sends a request to the Postillion back-end system which, in turn, creates a new connection between itself and the partner company that is involved in the transaction. (*Id.*) The connection between Postillion and the partner company is also on a private frame relay network. (*Id.* at ¶ 2) Postillion acts as an intermediary and informs the ATM as to whether the transaction has been completed successfully. (*Id.* at ¶ 7)

III. STANDARD OF REVIEW

⁹ Neither plaintiff nor defendants enumerate the differences between the ATMs.

A court shall grant summary judgment only if “the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(c). The moving party bears the burden of proving that no genuine issue of material fact exists. See *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586 n.10 (1986). “Facts that could alter the outcome are ‘material,’ and disputes are ‘genuine’ if evidence exists from which a rational person could conclude that the position of the person with the burden of proof on the disputed issue is correct.” *Horowitz v. Fed. Kemper Life Assurance Co.*, 57 F.3d 300, 302 n.1 (3d Cir. 1995) (internal citations omitted). If the moving party has demonstrated an absence of material fact, the nonmoving party then “must come forward with ‘specific facts showing that there is a genuine issue for trial.’” *Matsushita*, 475 U.S. at 587 (quoting Fed. R. Civ. P. 56(e)). The court will “view the underlying facts and all reasonable inferences therefrom in the light most favorable to the party opposing the motion.” *Pa. Coal Ass’n v. Babbitt*, 63 F.3d 231, 236 (3d Cir. 1995). The mere existence of some evidence in support of the nonmoving party, however, will not be sufficient for denial of a motion for summary judgment; there must be enough evidence to enable a jury reasonably to find for the nonmoving party on that issue. See *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249 (1986). If the nonmoving party fails to make a sufficient showing on an essential element of its case with respect to which it has the burden of proof, the moving party is entitled to judgment as a matter of law. See *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986).

IV. DISCUSSION

A. Infringement

1. Standard

A patent is infringed when a person “without authority makes, uses or sells any patented invention, within the United States . . . during the term of the patent.” 35 U.S.C. § 271(a). A two-step analysis is employed in making an infringement determination. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995). First, the court must construe the asserted claims to ascertain their meaning and scope. *Id.* Construction of the claims is a question of law subject to de novo review. See *Cybor Corp. v. FAS Techs.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998). The trier of fact must then compare the properly construed claims with the accused infringing product. *Markman*, 52 F.3d at 976. This second step is a question of fact. See *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998).

“Direct infringement requires a party to perform or use each and every step or element of a claimed method or product.” *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1378 (Fed. Cir. 2007). “If any claim limitation is absent from the accused device, there is no literal infringement as a matter of law.” *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed. Cir. 2000). If an accused product does not infringe an independent claim, it also does not infringe any claim depending thereon. See *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1553 (Fed. Cir. 1989). A product that does not literally infringe a patent claim may still infringe under the doctrine of equivalents if the differences between an individual element of the claimed invention

and an element of the accused product are insubstantial. *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 24 (U.S. 1997). To prove infringement by the doctrine of equivalents, a patentee must provide “particularized testimony and linking argument” as to the “insubstantiality of the differences” between the claimed invention and the accused product, or with respect to the function/way/result test. See *Texas Instruments Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1567 (Fed. Cir.1996). The patent owner has the burden of proving infringement and must meet its burden by a preponderance of the evidence. *SmithKline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988) (citations omitted).

2. Analysis

a. “Internet”

The court construes the word “Internet” to be a public network that is logically linked together by a globally unique address space. In contrast to the court's construction, plaintiff argues that the Internet includes both public and private networks.¹⁰ (D.I. 150 at 11) While plaintiff admits that the term “Internet” is not defined in the claims, specification, or prosecution history of the patents in suit, it relies on the extrinsic definition proffered by the Federal Networking Council (“FNC”):¹¹

[The Internet is t]he global information system that -
(i) is logically linked together by a globally unique address space

¹⁰ The court adopts defendants’ construction that the “Internet” is “a public network that is logically linked together by a globally unique address space.” (D.I. 149 at 1)

¹¹ The FNC is comprised of members of the Department of Defense, the National Science Foundation and NASA, and issued a definition for the Internet near the time when the ‘457 patent was filed.

based on the Internet Protocol (IP) or its subsequent extension/follow-ons;
(ii) is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suit or its subsequent extensions/follow-ons, and other IP-compatible protocols; and
(iii) provides, uses or makes accessible, **either publicly or privately**, high level services layered on the communications and related infrastructure described herein.

(D.I. 150 at 9) (emphasis added)

Plaintiff erroneously conflates the Internet's ability to make accessible publicly or privately high level **services** with whether or not the Internet itself consists of publicly or privately accessible **networks**. As defendants point out, "the words 'publicly or privately' do not modify 'the global information system.' Rather, 'publicly or privately' relates to the services provided on the network." (D.I. 182 at 7)

The question is whether the network infrastructure of the Internet is accessible by the public or whether it also contains inaccessible, private networks. As defendants' expert, Dr. David Lucantoni ("Lucantoni"), states in his report, "the Internet is a **public network** . . . [consisting of a] hardware and software infrastructure that provides connectivity between computers." (D.I. 204, J.A. 17 at ¶ 48) (emphasis added) "It differs from an intranet which is a **private network**."¹² (*Id.*) (emphasis added)

Plaintiff argues that even if the court does construe "Internet" to mean a public network, defendants still infringe the patents in suit both literally, and under the doctrine

¹² The court's definition of the Internet merely requires that its underlying network infrastructure is publicly accessible. This does not mean that said network cannot be privately owned. In fact, much of the Internet consists of privately owned networks that are available for public use. Ben Worthen, *Who owns the Internet? We have a map that shows you.*, CIO., Mar. 17, 2006, <http://advice.cio.com/node/209>. Private ownership of the networks that constitute the Internet is at the very heart of the network neutrality debate. *Id.*

of equivalents. The defendants literally infringe because the private frame relay network used by the accused products is actually public due to the fact that plaintiff's expert, Dr. Shukri Sourì ("Sourì"), could ping¹³ Cardronics' VPN server¹⁴ which has a connection to the network from a computer on the Internet and it returned a result, indicating that the VPN server has a public IP address.¹⁵ (D.I. 152 at 5) Defendants use this VPN server to enable their staff to connect to the frame relay network in order to monitor and debug customer transactions. (D.I. 204, JA 19 at ¶ 4)

Plaintiff's argument as to the public nature of the frame relay network is unpersuasive. A VPN server is a gateway that allows authorized users to securely connect to private networks over the Internet. Thus, a VPN server necessarily has a

¹³ From Sourì's report:

Ping is a software program that performs a function analogous to submarine sonar. Ping sends out a particular type of packets over the Internet from the user's computer to the computer at a particular IP address. If that IP address exists and can accept packets, it will respond by returning particular packets to the original sender. The round trip time is calculated and displayed, as well as information on whether packets were lost in transmission. Ping is a part of Network Utility software Version 1.4.5 for Mac OS X, and many other operating systems.

(D.I. 204, JA 14 at D-1)

¹⁴ VPN is short for Virtual Private Network. A VPN server gives a user access to a private network over the Internet. (D.I. 204, JA 14 at D-6) See also Bradley Mitchell, *VPN- Virtual Private Network*, about.com, http://compnetworking.about.com/od/vpn/g/bldef_vpn.htm. A VPN server authenticates users, encrypts data, and manages sessions with users. *Id.*

¹⁵ IP address is short for Internet Protocol address, and is an identifying number assigned to a given device that operates on a computer network that uses the Internet Protocol for communication. Both private networks and networks that connect to the Internet can use IP address for communication. June Jamrich Parsons et al., *New Perspectives, Computer Concepts*, 255 (10th ed. 2006)

public Internet address. Simply because the VPN server is accessible from the Internet does not mean that the network it enables access to is part of the Internet. To find otherwise would be the equivalent of saying that the Daytona International Speedway is a part of the public highway system because one can drive a car onto the racetrack from the street with the permission of the Speedway's owners.

Finally, plaintiff argues that even if the court does construe "Internet" to mean a public network, the defendants still infringe under the doctrine of equivalents because AT&T's private frame relay network does substantially the same thing as the Internet, in substantially the same way, to achieve substantially the same result. (D.I. 152 at 7) Specifically, the frame relay network, like the Internet, allows a customer to use a function of the ATM, such as accessing a bank account to withdraw money. (*Id.*) It does so in substantially the same way because it too uses TCP/IP as one of its communications protocols. (*Id.*) It achieves the same results as the Internet since the customer is ultimately allowed to withdraw the money. (*Id.*)

Here, the "all limitations" rule prevents the application of the doctrine because using it "would vitiate a claim limitation." *Carnegie Mellon Univ. v. Hoffmann-La Roche Inc.*, 541 F.3d 1115, 1129 (Fed. Cir. 2008). Construing "Internet" to mean **any** network would read the limitation out of the patent. *See id.* ("finding that *Taq* is an equivalent of *E. coli* would essentially render the 'bacterial source [is] *E. coli*' claim limitation meaningless, and would thus vitiate that limitation of the claims.").

In addition, if the court were to find that AT&T's private frame relay system was the equivalent of the Internet, the patents in suit would read on prior art since plaintiff

admitted in its brief that “[a]t the time the invention was made, automated teller machines (or “ATMs”) communicated with a bank’s computer via a **dedicated line**.” (D.I. 152 at 2) The ensnarement doctrine prohibits just such an outcome. *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1321 (Fed. Cir. 2009) (“Ensnarement bars a patentee from asserting a scope of equivalency that would encompass, or ‘ensnare,’ the prior art.”).

b. “An Internet interface”¹⁶

The court construes “an Internet interface” as access to the Internet. Plaintiff argues that, pursuant to Souri’s opinion, “one of ordinary skill in the art would understand the ‘Internet interface’ to be the point or points of interaction between the apparatus and the Internet such as one or more network interface controllers (NICs).” (D.I. 188 at 7)

The ‘457 patent’s specification and prosecution history contradict plaintiff’s proposed construction. Figure 3b of the ‘457 patent is a block diagram that “show[s] [a] combination[] of integrated systems according to the present invention.” (‘457 patent, Fig. 3b) In figure 3b, a control means is connected to a modem, which is in turn connected to an Internet interface. The modem, control means, and Internet interface are separate entities. In response, plaintiff alleges that a typical NIC can include both modem functionality and logic control blocks or chips which control communication. (D.I. 166 at 11) Plaintiff further argues that one of ordinary skill in the art would

¹⁶ Plaintiff argues the construction of the term “Internet” and “an Internet interface” simultaneously. For purposes of clarity, the court divides its analysis of the two terms.

understand that the modem and Internet interface could be in the same component, and that an Internet interface is included in a NIC. (*Id.*) Plaintiff's only corroborating evidence is Souri's assertion of the same. (*Id.* at 10-11) Had plaintiff meant "Internet interface" to mean "a network connection" or some derivation thereof, it clearly could have done so given its repeated use of the term throughout the patent.

The '457 patent's prosecution history also contradicts plaintiff's proffered construction. In order to overcome prior art, plaintiff argued that "[the prior art] does not teach or suggest the use of an ATM with an **Internet connection** to conduct a retail transaction." (D.I. 204, JA 7 at 145) (emphasis added) Similarly, in referencing issued claim 28 which also contains "an Internet interface" limitation, plaintiff argued that the claim "relate[s] to an automated teller machine having an **Internet connection** wherein the **Internet connection** allows access to a florist and a floral arrangement can be purchased." (*Id.*) (emphasis added) These statements show that the "Internet interface" as claimed in the '457 patent was actually an Internet connection, i.e., access to the Internet. Because the same claim language is used throughout the child patents, plaintiff's prosecution disclaimer in the '457 patent requires "an Internet interface" to be construed the same way throughout the remaining patents in suit. *RFID Tracker, Ltd v. Wal-Mart Stores, Inc.*, 342 Fed. Appx. 629, 630 (Fed. Cir. 2009) ("Prosecution disclaimer may also arise from an applicant's statements in a parent patent application if the parent application relates to the same subject matter as the claim language at issue.").

Plaintiff implicitly argues that the doctrine of claim differentiation requires that "an

Internet interface” be construed as something other than “access to the Internet” because claim 1 of the ‘158 patent requires “an Internet interface to an Internet connection.” (‘158 patent, col. 6:4) “The doctrine of claim differentiation create[s] a presumption that each claim in a patent has a different scope.” *Bradford Co. v. Conteyor N. Am., Inc.*, 603 F.3d 1262 1271 (Fed. Cir. 2010) (citing *Comark Commc’ns v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998)). However, “the presumption created by the doctrine of claim differentiation is ‘not a hard and fast rule and will be overcome by a contrary construction dictated by the written description or prosecution history.’” *Regents of Univ. Of Cal. v. Dakocytomation Cal., Inc.*, 517 F.3d 1364, 1375 (Fed. Cir. 2008) (citing *N. Am. Vaccine, Inc. v. Am. Cyanamid Co.*, 7 F.3d 1361, 1369 (Fed. Cir. 2005)). Here, the presumption is overcome by both the written description and prosecution history of the patents in suit.

As explained *supra*, the accused products do not have access to the Internet. Instead, they connect to Postillion’s back-end servers by way of a private frame relay network. Therefore, defendants do not infringe this limitation of the patents in suit.

B. Invalidity

1. Indefiniteness

a. Standard

Indefiniteness is a question of law. *Amgen Inc. v. F. Hoffman-LA Roche Ltd.*, 580 F.3d 1340, 1371 (Fed. Cir. 2009) (citing *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1319 (Fed. Cir. 2008)). That is, “[a] determination that a patent claim is invalid for failure to meet the definiteness requirement of 35 U.S.C. § 112 [¶ 2] is a legal

conclusion that is drawn from the court's performance of its duty as the construer of patent claims[.]” *Biomedino, LLC v. Waters Technologies Corp.*, 490 F.3d 946, 949 (Fed. Cir. 2007) (citation omitted); see also *Exxon Research and Engineering Co. v. U.S.*, 265 F.3d 1371, 1376 (Fed. Cir. 2001) (rejecting argument that underlying questions of fact may preclude summary judgment on indefiniteness, as “a court may consider or reject certain extrinsic evidence in resolving disputes en route to pronouncing the meaning of claim language”).

Section 112 requires that a patent “shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112, ¶ 2. As explained by the Federal Circuit,

[t]he primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, e.g., competitors of the patent owner, can determine whether or not they infringe.

All Dental Prodx, LLC v. Advantage Dental Prods., Inc., 309 F.3d 774, 779-80 (Fed. Cir. 2002) (citing *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 28-29 (1997)). In other words,

[a] patent holder should know what he owns, and the public should know what he does not. For this reason, the patent laws require inventors to describe their work in “full, clear, concise, and exact terms,” 35 U.S.C. § 112, as part of the delicate balance the law attempts to maintain between inventors, who rely on the promise of the law to bring the invention forth, and the public, which should be encouraged to pursue innovations, creations, and new ideas beyond the inventor's exclusive rights.

Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 731 (2002).

A determination as to whether the definiteness requirement has been met “requires construction of the claims according to the familiar canons of claim

construction.” *All Dental Prodx, LLC*, 309 F.3d at 779-80. Claims that are not amenable to construction or are insolubly ambiguous are indefinite. *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008). As with every construction issue, the focus of the indefiniteness inquiry is on the meaning that claim terms would have to one of ordinary skill in the art “at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1313 (*citing Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004)).

Although a patentee need not define his invention with mathematical precision in order to comply with the definiteness requirement, *In re Marosi*, 710 F.2d 799, 802-03 (Fed. Cir. 1983), a claim is deemed sufficiently definite only if “one skilled in the art would understand the bounds of the claim when read in light of the specification.” *Exxon Res. & Eng’g Co. v. U.S.*, 265 F.3d at 1375. Therefore, even if a claim term’s definition can be reduced to words, it “is still indefinite if a person of ordinary skill in the art cannot translate the definition into meaningfully precise claim scope.” *Halliburton*, 514 F.3d at 1251. In this regard, a claim term is indefinite if the patent does not provide an “objective anchor” or “yardstick against which potential infringers may measure their activities.” *Girafa.com v. IAC Search & Media, Inc.*, Civ. No. 07-787-SLR, 2009 U.S. Dist. LEXIS 88796, at *7 (D. Del. Sept. 25, 2009).

In sum, the indefiniteness standard of 35 U.S.C. § 112, ¶ 2 is met “where an accused infringer shows by clear and convincing evidence that a skilled artisan could not discern the boundaries of the claim based on the claim language, the specification,

and the prosecution history, as well as her knowledge of the relevant art area.” *Id.*

b. Discussion

(1) Claim 1 of the continuation patents

Defendants argue that “there is no support in the specification for the claim terms ‘encryption services’ and ‘security services,’ other than the presence of those terms in the long list of retail services that a consumer may purchase through the [ATM].” (D.I. 181 at 7) Plaintiff counters that the terms have an ordinary meaning to one of skill in the art, and the specification does not restrict their meaning. (D.I. 168 at 11)

Defendants are correct that the terms “security services” and “encryption services” appear nowhere in the specification or prosecution history other than “in the long list of retail services that a consumer may purchase through the [ATM].” (D.I. 181 at 7) However, for a § 112 ¶ 2 analysis, the level of skill in the art is also relevant. *Haemonetics Corp. v. Baxter Healthcare Corp.*, 607 F.3d 766, 783 (Fed. Cir. 2010). Here, the claims are not “insolubly ambiguous.” *Id.* Defendants are essentially arguing that the disputed terms lack an antecedent basis. (D.I. 159 at 13) However, “failure to provide explicit antecedent basis for terms does not always render a claim indefinite.” *In re Skvorecz*, 580 F.3d 1262, 1269 (Fed. Cir. 2009). Plaintiff’s expert has offered his opinion that one of skill in the art would understand that these terms have their ordinary meaning and, in the context of the patent, “would refer to applying encryption and security services to ATM communications to allow secure ATM transactions.” (D.I. 169 at ¶¶ 27, 31) Because defendants have proffered no contrary evidence and have the burden of proving invalidity by a “clear and convincing standard,” their motion is denied.

(2) Claims 1, 2, 3, and 5 of the '457 patent

Defendants argue that the limitation “means for providing a retail transaction to the consumer through an Internet interface to the automated teller machine” is indefinite. More specifically, defendants contend that the specification fails to disclose sufficient structure corresponding to the means-plus-function term “control means” as identified in figure 3b, arguing in this regard that the only structure disclosed therein is a programmed processor such as a computer. (*Id.* at 10-11)

Plaintiff responds by arguing that a “control means” cannot provide Internet access and, therefore, is not properly considered part of the structure in the specification linked to performing the claimed function. (D.I. 169 at 7) Plaintiff argues that the “means for providing a retail transaction” limitation is not indefinite because “one of ordinary skill in the art would understand the term [Internet] interface to mean the point or points of interaction between the apparatus and the Internet, and that a skilled person would immediately understand that such a device would be one which is . . . commonly referred to as a [NIC].” (D.I. 154 at 21) Plaintiff, citing *Net Money/IN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1366 (Fed. Cir. 2008), contends that the presumption that claim 1 is a means-plus-function claim is overcome because the claim itself recites sufficient structure to perform the claimed function. Even if the claim is evaluated under a means-plus-function analysis, plaintiff argues that the patent sufficiently enumerates the required structure. (D.I. 154 at 21)

According to the Federal Circuit,

[u]se of the word “means” in claim language creates a presumption that § 112 ¶ 6 applies. If, in addition to the word “means” and the functional

language, the claim recites sufficient structure for performing the described functions in their entirety, the presumption of § 112 ¶ 6 is overcome—the limitation is not a means-plus-function limitation. Sufficient structure exists when the claim language specifies the exact structure that performs the functions in question without need to resort to other portions of the specification or extrinsic evidence for an adequate understanding of the structure.

TriMed, Inc. v. Stryker Corp., 514 F.3d at 1259-60 (citations omitted).

Here, “an Internet interface” does not provide sufficient structure for performing the function of providing the customer with access to the Internet in order to complete a retail transaction. As discussed *supra*, it is necessary to resort to the prosecution history to adequately understand what “an Internet interface” is. Terms that the Federal Circuit has found to disclose sufficient structure within a claim to overcome the § 112 ¶ 6 presumption were simple on their face.¹⁷ Therefore, plaintiff has failed to overcome the presumption that this term is subject to § 112 ¶ 6.

Furthermore, the court concludes that “means for providing a retail transaction to the consumer through an Internet interface to the automated teller machine” is indefinite as a matter of law. Plaintiff does not point to a disclosure in the specification for “an Internet interface” or any other structure, and plaintiff’s assertion that one of ordinary skill in the art would understand “an Internet interface” to be a NIC “conflates the disclosure requirement of § 112 ¶ 6 and the enablement requirement of § 112 ¶ 1.” *Encyclopedia Britannica v. Alpine Elecs.*, 355 Fed. Appx. 389, 394 (Fed. Cir. 2009) (citing *Aristocrat Techs. Austl. Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1333 (Fed.

¹⁷ See, e.g., *LSI Industries, Inc. v. ImagePoint, Inc.*, 279 Fed. Appx. 964, 971 (Fed. Cir. 2008) (finding the term “channel” to disclose sufficient structure to overcome the presumption that the term “channel means” created a means-plus-function claim).

Cir. 2008)). “The understanding of one of skill in the art does not relieve the patentee of the duty to disclose sufficient structure to support means-plus-function claim terms.” *Id.* (citing *Lucent Techs., Inc. v. Gateway, Inc.*, 543 F.3d 710, 719 (Fed. Cir. 2008)). “It is not enough for the patentee simply to state or later argue that persons of ordinary skill in the art would know what structures to use to accomplish the claimed function.” *Id.* (citing *Aristocrat*, 521 F.3d at 1337). Regardless of whether “a control means” is a part of “an Internet interface,” the specification fails to disclose sufficient structure to support this means-plus-function limitation, and the understanding of one of skill in the art cannot make up for the deficiency.¹⁸

2. Anticipation

a. Standard

The standard of proof to establish the invalidity of a patent is “clear and convincing evidence.” *Golden Blount, Inc. v. Robert H. Peterson Co.*, 365 F.3d 1054, 1058 (Fed. Cir. 2004). In conjunction with this burden, the Federal Circuit has explained that,

[w]hen no prior art other than that which was considered by the PTO examiner is relied on by the attacker, he has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job, which includes one or more examiners who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents.

PowerOasis, Inc. v. T-Mobile USA, Inc., 522 F.3d 1299, 1304 (Fed. Cir. 2008) (quoting *Am. Hoist & Derrick Co. v. Sowa & Sons*, 725 F.2d 1350, 1359 (Fed. Cir. 1984)).

¹⁸ Plaintiff’s motion for summary judgement of validity based on enablement of claim 1 of the ‘457 patent is denied as moot.

An anticipation inquiry involves two steps. First, the court must construe the claims of the patent in suit as a matter of law. *See Key Pharms. v. Hercon Labs. Corp.*, 161 F.3d 709, 714 (Fed. Cir. 1998). Second, the finder of fact must compare the construed claims against the prior art. *See id.*

Proving a patent invalid by anticipation “requires that the four corners of a single, prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation.” *Advanced Display Sys. Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000) (citations omitted). The Federal Circuit has stated that “[t]here must be no difference between the claimed invention and the referenced disclosure, as viewed by a person of ordinary skill in the field of the invention.” *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991). The elements of the prior art must be arranged or combined in the same manner as in the claim at issue, but the reference need not satisfy an *ipsissimis verbis* test. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009) (citations omitted). “In determining whether a patented invention is [explicitly] anticipated, the claims are read in the context of the patent specification in which they arise and in which the invention is described.” *Glaverbel Societe Anonyme v. Northlake Mktg. & Supply, Inc.*, 45 F.3d 1550, 1554 (Fed. Cir. 1995). The prosecution history and the prior art may be consulted “[i]f needed to impart clarity or avoid ambiguity” in ascertaining whether the invention is novel or was previously known in the art. *Id.* (internal citations omitted).

b. Discussion

(1) Subrizi reference

Defendants assert that claims 1, 2, 9 and 14 of the '457 patent are anticipated by the Subrizi reference ("Subrizi"). (D.I. 159 at 14) Defendants contend that the only point of disagreement is whether the Subrizi discloses "the Internet" by referencing "the information superhighway." (*Id.* at 15) The portion of the article in question reads as follows:

The banking space metaphor is powerful enough to migrate to other hardware, including TVs, desktop computers, and hand-held personal digital assistants such as Apple's Newton. While a customer would not be able to withdraw cash from these other devices, the idea of a branded virtual banking space that can be accessed from a variety of information "ports" recasts the traditional ATM as just one public access window into a ubiquitous financial network, an endless lattice of financial and other services that will eventually be part of the information superhighway.

(D.I. 161, ex. 1 at 1689)

Plaintiff's disagreement with the anticipatory nature of Subrizi runs deeper than claiming that "information superhighway" is not synonymous with "Internet." Plaintiff also argues that "Subrizi focuses on and discusses [] a graphical user interface (GUI) . . . and how it could be 'branded' in accordance with the issuing bank. The upgraded GUI would create a virtual "banking space," . . . accessible from [other hardware] that Subrizi speculates will eventually become part of the 'information superhighway.'" (D.I. 168 at 14) "Subrizi does not disclose an ATM having an Internet interface or Internet access." (*Id.* at 14-15) Plaintiff's position regarding the meaning of "information superhighway," however, is belied by the fact that, during the reexamination of the '457 patent, Souri admitted that "one of ordinary skill in the art would have understood the phrase 'information superhighway' to include the Internet." (D.I. 204, JA 13 at 343)

Although no genuine issue of material fact remains as to whether Subrizi discloses the Internet, one does remain as to whether the reference discloses an ATM with access to the Internet. While the disclosed financial network itself may become a part of the Internet, the article itself does not specify how the ATM would connect to the financial network. It may have an intermediary similar to the Postillion back-end server. The finder of fact should hear testimony from the parties' experts as to Subrizi's disclosure.

(2) Landry reference

All of defendants' arguments in support of its motion for invalidity in light of the Landry reference ("Landry") are based exclusively on plaintiff's claim construction. (D.I. 159 at 19) Because the court declined to follow plaintiff's construction, defendants' motion for invalidity is denied as moot.

(3) Other anticipatory prior art

Plaintiff also argues that numerous references relied on as anticipatory by defendants make no mention of the Internet and, therefore, cannot disclose an interface to the Internet.¹⁹ (D.I. 154 at 11) However, in making its argument, plaintiff fails to cite expert testimony as to the disclosure of the cited prior art. Where the "subject matter [of the patents in suit] is sufficiently complex to fall beyond the grasp of

¹⁹ Specifically: U.S. Patent No. 5,227,778, U.S. Patent No. 5,473,143, U.S. Patent No. 5,649,117, U.S. Patent No. 5,991,410, Alex Subrizi et al., *The Virtual ATM*, Bank Marketing (Nov. 1994), U.S. Patent No. 5,038,022, James McAndrews, *The Evolution of Shared ATM Networks*, Business Review (May/June 1991), JP Appl. Publication No. H3-98366, U.S. Patent No. 5,550,816, U.S. Patent No. 5,677,955, James Kobielus, *Prospects are golden for wireless data services*, Network World (Nov. 7, 1994) and Gerald Morris et al., *Kiosks: A Technical Overview* (Jan. 10, 1995). (D.I. 154 at 11-12)

an ordinary layperson,” the Federal Circuit gives district courts wide latitude in requiring expert testimony as to validity. *Proveris Sci. Corp. v. Innovasystems, Inc.*, 390 F.3d 1361, 1370 (Fed Cir. 2004). Given the complex nature of this technology, the court requires such testimony. Therefore, a genuine issue of material fact remains as to the disclosure of the allegedly anticipatory prior art; plaintiff’s motion is denied in this regard.

3. Obviousness

a. Standard

“A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.” 35 U.S.C. § 103(a). Obviousness is a question of law, which depends on several underlying factual inquiries.

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

KSR Int’l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966)). “Because patents are presumed to be valid, see 35 U.S.C. § 282, an alleged infringer seeking to invalidate a patent on obviousness grounds must establish its obviousness by facts supported by clear and convincing evidence.” *Kao Corp. v. Unilever U.S., Inc.*, 441 F.3d 963, 968 (Fed. Cir. 2006) (citation

omitted).

“[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR*, 550 U.S. at 418. Likewise, a defendant asserting obviousness in view of a combination of references has the burden to show, by clear and convincing evidence, that a person of ordinary skill in the relevant field had a reason to combine the elements in the manner claimed. *Id.* at 418-19. The Supreme Court has emphasized the need for courts to value “common sense” over “rigid preventative rules” in determining whether a motivation to combine existed. *Id.* at 419-20. “[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 420.

In addition to showing that a person of ordinary skill in the art would have had reason to attempt to make the composition or device, or carry out the claimed process, a defendant must also demonstrate, by clear and convincing evidence, that “such a person would have had a reasonable expectation of success in doing so.”

PharmaStem Therapeutics, Inc. v. ViaCell, Inc., 491 F.3d 1342, 1360 (Fed. Cir. 2007).

b. Discussion

Plaintiff moves for summary judgment on defendants’ obviousness defense. (D.I. 154 at 14) In support of its argument, plaintiff cites multiple instances in Lucantoni’s report where he opines that the patents in suit are obvious if the court were to construe “Internet interface” to mean a “TCP/IP connection.” (See, e.g., D.I. 204, J.A. 17 at ¶¶ 33, 34, 37, 39) In their answering brief, defendants fail to point to any part

of Lucantoni's obviousness analysis that does not rely on construing "Internet interface" to mean a "TCP/IP connection."

As discussed *supra*, the court declines to construe "Internet interface" to mean a "TCP/IP connection." Because Lucantoni's entire obviousness analysis relies on a construction of "Internet interface" not adopted by the court, plaintiff's motion for validity is granted in this regard.

V. CONCLUSION

For the reasons stated above, defendants' products do not infringe the asserted claims of the patents in suit under the court's claim construction. In addition, claim 1 of the '457 patent is invalid for indefiniteness, as are the asserted claims that are dependent on it. Therefore, defendants' motion for summary judgment of noninfringement is granted, defendants' motion for summary judgment of invalidity is granted in part, plaintiff's motion for summary judgment of validity is granted in part, and plaintiff's motion for summary judgment of infringement is denied.

An appropriate order shall issue.